

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* DANIEL WAYNE BEDELL, RICHARD HSIAO,  
JAMES D. JARRATT, PATRICK RUSH WEBB  
and SUE SIYANG ZHANG

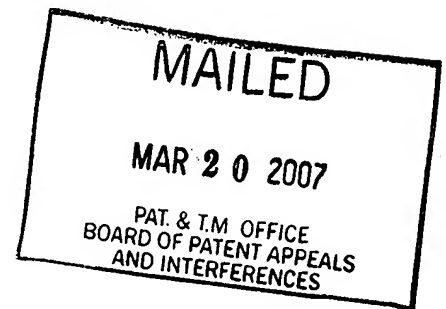
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Appeal 2007-0240  
Application 10/602,462  
Technology Center 2600

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Decided: March 20, 2007

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Before JAMES D. THOMAS, HOWARD B. BLANKENSHIP and  
MAHSHID D. SAADAT, *Administrative Patent Judges*.

THOMAS, *Administrative Patent Judge*.

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134, Appellants have appealed to the Board from the Examiner's Final Rejection of claims 25 through 37.

As representative of the disclosed and claimed invention,  
representative independent claim 25 is reproduced below:

25. A magnetic head, comprising:  
  
an insulating layer,  
  
a photoresist layer positioned adjacent the insulating layer for defining  
at least one channel; and  
  
a coil structure defined by a conductive material situated in the at least  
one channel;  
  
wherein a profile of the channel includes a first segment defining a  
first angle and a second segment continuous with the first segment, the  
second segment defining a second angle, the second angle being different  
than the first angle.

The following references are relied on by the Examiner:

Rose	US 2001/0013991 A1	Aug. 16, 2001
Hsiao	US 6,570,739 B2	May 27, 2003

Claims 25 through 34, 36 and 37 stand rejected under 35 U.S.C.  
§ 102(e) as being anticipated by Rose. Claim 35 stands rejected under  
35 U.S.C. § 103. As evidence of obviousness, the Examiner relies upon  
Rose in view of Hsiao.

Rather than repeat the positions of the Appellants and the Examiner,  
reference is made to the Brief and Reply Brief for Appellants' positions and  
to the Answer for the Examiner's positions.

#### OPINION

Generally for the reasons set forth by the Examiner in the Answer, as  
expanded upon here, we sustain the rejections of all claims on appeal under  
35 U.S.C. § 102 and § 103. Appellants present arguments of independent

claim 25 as representative of independent claims 36 and 37. Additionally, separate arguments are presented within the first stated rejection as to dependent claim 31. Lastly, separate arguments are presented as to dependent claim 35 rejected under 35 U.S.C. § 103. We will address these in turn.

Although we recognize from the arguments presented in the Brief and Reply Brief that certain portions of the Specification characterize certain identified structural elements as broadly “defining” certain unspecified relationships among other disclosed elements, correspondingly, the language “for defining” is used in the photoresist clause of representative independent claim 25 on appeal and the language “defining” is also used three times in the remaining clauses of this claim. To the extent the use of this term actually relates to the disclosed invention, its reference in the claim, when considered against prior art, is essentially a broad recitation of vague structural relationships. Therefore, it is unclear how Appellants’ arguments that Appellants’ disclosure in any meaningful way may be used to clarify the word “define” as claimed and therefore distinguish over the applied prior art and the manner in which the Examiner has applied the correlation according to the showing of modified figure 3 of Rose at page 4 of the Answer. In addition to the Examiner’s modified showing as well at page 9 of the Answer to the extent it relates to specified angles, the Examiner’s Statement of the Rejection at page 3 and the correlated modified showing interpreting certain teachings with respect to the claimed invention at page 4 of the Answer are consistent with our understanding of the reference. The broad definitional relationships of the claimed insulation layer with respect to the resist layer of the claims is shown with respect to insulation layer 70 and

resist layer 82 in figure 3 of Rose. The artisan would well appreciate that a so-called coil structure claimed is “defined by” the upper conductors’ 20b/22b of figure 3 in at least one channel as claimed. Because of the manner in which claim 25 is recited, the Examiner’s characterization of first and second segments is subject to broad interpretations of correlating structure in figure 3 of Rose as the Examiner has done.

In a corresponding manner, the wherein clause at the end of claim 25 on appeal does not recite a reference point of any structural element of the claim as a basis for “defining” a first angle and a second angle with respect to the first and second segments, let alone a relationship of the second angle being different from the first angle. Even in the more specific recitation in dependent claim 31 (including claim 30 as well) there is no recitation of the manner in which an actual angle recited in these claims is measured. Appellants’ Reply Brief does not appear to recognize the Examiner’s characterization at the bottom of page 8 of the Answer that “Applicant does not specify the way of defining the angle” as it relates to dependent claim 31 on appeal. Appellants’ positions are unpersuasive of patentability in the Brief and Reply Brief to the extent they urge us to read into the limitations of claims 25 and 31 features of the disclosed invention such as their relationships shown in figure 4E of the disclosed invention. In fact, the disclosed angular relationships of the first and second segments in accordance with the discussion at Specification page 11, is that the degrees are broadly measured “with respect to a horizontal,” a feature not set forth in the argued claims on appeal.

To the extent Appellants argue in the Brief and Reply Brief that Rose teaches away from the claimed invention, this view is misplaced. "A reference may be said to teach away when a person of ordinary skill, upon [examining] the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.' *In re Gurley*, 27 F.3d 551, 553, 31 USPQ2d 1130, 1131 (Fed. Cir. 1994)." (Brackets in original.) *Para-Ordnance Mfg. v. SGS Importers Int'l*, 73 F.3d 1085, 1090, 37 USPQ2d 1237, 1241 (Fed. Cir. 1995). Rose may be fairly characterized as not teaching at all any aspect ratio or as being merely silent as to this aspect of claim 35 on appeal. Rose does not plainly discourage an artisan from following the path set out or would have led the artisan in a direction divergent from the path taken by Appellants.

To the extent Appellants' remarks as to the second stated rejection pertaining to dependent claim 35 on appeal contend that there is an insufficient suggestion or motivation to have combined the teachings of Rose with those of Hsiao, we disagree with these urgings. The Examiner's rationale at page 10 of the Answer is a more persuasive analysis of the combined teachings of these two references. Beginning in the paragraph at the middle of column 5 of Hsiao, this reference does teach that it was known in the art to have an aspect ratio (t/w) or height divided by the width of "at least 2.5" as recited at the end of claim 35 on appeal. As also expressed at the end of the Abstract, the end of the patent and in the Summary of the Invention at columns 1 and 2 of Hsiao, the artisan would have well appreciated the advantages of utilizing a high aspect ratio induction coil in the magnetic recording and reading medium arts. Even Appellants'

discussion of their own prior art figures 1 and 2, specification pages 1 and 2 indicated at page 2, lines 9 through 16 that a high aspect ratio ( $Y/X$ ) was desirable in the art “as the coil resistant decreases with increasing aspect ratio,” as noted at lines 10 and 11. This would have been an obvious enhancement to the teachings in Rose which does achieve low resistance of coil structures in accordance with the title of his invention and the advantages represented, for example, at the end of the Abstract of that patent. We recognize that one of the major teachings regarding the upper conductors’ 20b/22b in Rose with respect to the lower conductors’ 20a/22a is that the upper conductors are wider as depicted in figure 3. The vertical thickness of Rose’s upper conductors would not necessarily have to be increased beyond the depiction shown as long as the aspect ratio advantages taught by the admitted prior art and Hsiao would have been achieved. Thus, it is not the actual height of the vertical distance of the conductors but the ratio that is significant to achieving the additional advantageous results.

In view of the foregoing, the decision of the Examiner rejecting various claims on appeal under 35 U.S.C. § 102 and § 103 is affirmed.

Appeal 2007-0240  
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No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR §1.136(a). See 37 CFR § 1.136(a)(1)(iv).

AFFIRMED

PGC

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